

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. **(Previously Presented)** A circuit arrangement for two-wire/four-wire conversion in a DMT system, which is connected to a digital reception path, a digital transmission path and also an analog transmission/reception path and which has an echo cancellation device in the time domain, the arrangement having a device for adaptation of the echo cancellation in the frequency domain, wherein the echo cancellation device is nonlinear; and the device for adaptation of the echo cancellation has a first linear model, a nonlinear model and also a second linear model; and the coefficients of the nonlinear model which are determined in the device for adaptation of the echo cancellation can be transferred to a nonlinear unit of the echo cancellation device.
2. **(Previously Presented)** The circuit arrangement as claimed in claim 1, wherein the device for adaptation of the echo cancellation carries out the adaptation by means of a pilot tone.
3. **(Previously Presented)** The circuit arrangement as claimed in claim 1, wherein the first linear model and the second linear model of the device for adaptation of the echo cancellation are in each case formed by a complex number.
4. **(Previously Presented)** The circuit arrangement as claimed in claim 1, wherein the nonlinear model of the device for adaptation of the echo cancellation is formed by a Taylor series.
5. **(Previously Presented)** The circuit arrangement as claimed in claim 4, wherein the Taylor series of the nonlinear model is calculated up to the quadratic element.

6. **(Previously Presented)** The circuit arrangement as claimed in claim 1, wherein a linear echo cancellation device in the frequency domain is connected in parallel with the device for adaptation of the echo cancellation.
7. **(Previously Presented)** A method for attenuating echo signals in a circuit arrangement for two-wire/four-wire conversion of a signal generated by multicarrier modulation with orthogonal subchannels, the modeling being effected in the frequency domain of the signal, while the echo cancellation is effected in the time domain of the signal, wherein the echo cancellation device is nonlinear; and the device for adaptation of the echo cancellation has a first linear model, a nonlinear model and also a second linear model; and the coefficients of the nonlinear model which are determined in the device for adaptation of the echo cancellation are transferred to a nonlinear unit of the echo cancellation device.
8. **(Original)** The method as claimed in claim 7, wherein the modeling of the nonlinearities is effected using a pilot tone.
9. **(Previously Presented)** The method as claimed in claim 7, wherein the nonlinearities are mapped by a Taylor series.
10. **(Original)** The method as claimed in claim 9, wherein the Taylor series is terminated after the quadratic element.
11. **(Previously Presented)** The method as claimed in claim 7, wherein linear echo compensation is carried out in the frequency domain of the signal.
12. **(Previously Presented)** A circuit arrangement for echo cancellation in a DMT system, the circuit arrangement comprising:

a nonlinear device for adaptive echo cancellation in the frequency domain, the nonlinear device being connected between a digital reception path and a digital transmission path of the DMT system and having

first and second linear models, and

a nonlinear model configured to determine coefficients for adaptive echo cancellation; and

an echo-cancellation device having a nonlinear unit in communication with the nonlinear model of the nonlinear device for receiving the coefficients therefrom.

13. **(Previously Presented)** The circuit arrangement as claimed in claim 12, wherein the nonlinear device further comprises an input for receiving a pilot tone.
14. **(Previously Presented)** The circuit arrangement as claimed in claim 12, wherein the first linear model and the second linear model of the nonlinear device are configured to generate signals representative of first and second complex numbers.
15. **(Previously Presented)** The circuit arrangement as claimed in claim 12, wherein the nonlinear model of the nonlinear device is configured to generate a signal by evaluating a Taylor series.
16. **(Previously Presented)** The circuit arrangement as claimed in claim 15, wherein the nonlinear model of the nonlinear device is configured to generate a signal by evaluating a Taylor series truncated after a quadratic term thereof.
17. **(Previously Presented)** The circuit arrangement as claimed in claim 12, further comprising a linear echo cancellation device in the frequency domain connected between the digital transmission path and the digital reception path of the DMT system.
18. **(Currently Amended)** A method for attenuating an echo of a signal generated by multicarrier modulation with orthogonal subchannels, said method comprising:

in the frequency domain of the signal, adaptively generating a nonlinear model of the signal by receiving a pilot tone; and

on the basis of the nonlinear model, performing nonlinear echo cancellation of the signal in the time domain of the signal;
19. **(Cancelled)**

Applicant : Dietmar Straussnigg et al.
Serial No. : 09/914,417
Filed : December 18, 2001
Page : 5 of 6

Attorney's Docket No.: 12816-025001 / S1184 SB/flu

20. **(Previously Presented)** The method as claimed in claim 18, wherein adaptively generating a nonlinear model comprises evaluating a Taylor series.
21. **(Previously Presented)** The method as claimed in claim 20, wherein evaluating the Taylor series comprises evaluating the Taylor series truncated after a quadratic term thereof
22. **(Previously Presented)** The method as claimed in claim 18, further comprising performing linear echo compensation in the frequency domain of the signal.